



Attorney Docket No.: 3573.204-US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

EXPRESS MAIL CERTIFICATE

Box Patent Application
Hon. Commissioner of Patents and Trademarks
Washington, DC 20231

Re: U.S. Patent Application for
NOSE PEN

Applicants: Rex et al.

Sir:

Express Mail Label No. RB813923308US.

Date of Deposit March 16, 1993

I hereby certify that the following attached
paper(s) or fee

1. Transmittal of Supplemental Declaration
2. Executed Combined Declaration and Power of Attorney

are being deposited with the United States Postal Service
"Express Mail Post Office to Addressee" under 37 C.F.R. 1.10
on the date indicated above and is addressed to the
Commissioner of Patents and Trademarks, Washington, DC 20231.

Patricia Duque

(Name of person mailing paper(s) or fee)


(Signature of person mailing paper(s) or fee)

Mailing Address:

Novo Nordisk of North America, Inc.
405 Lexington Avenue, Suite 6200
New York, NY 10017
(212) 867-0123

SAN00941668

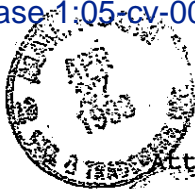


COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (Includes Reference to PCT International Applications)			Attorney's Docket Number: 3573.204-US
<p>As a below named inventor, I hereby declare that:</p> <p>My residence, post office address and citizenship are as stated below next to my name.</p> <p>I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:</p> <p><u>NOSE PEN</u></p> <hr/> <p>the specification of which (check only one item below):</p> <p><input checked="" type="checkbox"/> is attached hereto</p> <p><input type="checkbox"/> was filed as United States application</p> <p>Serial No. _____</p> <p>on _____</p> <p>and was amended</p> <p>on _____ (if applicable).</p> <p><input checked="" type="checkbox"/> was filed as PCT international application</p> <p>Number <u>PCT/DK91/00400</u></p> <p>on <u>December 19, 1991</u></p> <p>and was amended under PCT Article 19</p> <p>on _____ (if applicable).</p> <p>I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.</p> <p>I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).</p> <p>I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign applications(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign applications(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:</p>			
PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:			
COUNTRY	APPLICATION NUMBER	DATE OF FILING	PRIORITY CLAIMED
Denmark	3028/90	December 21, 1990	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (Includes Reference to PCT International Applications)				Attorney's Docket Number: 3573.204-US	
I hereby claim the benefit under Title 35, United States Code §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this applications is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:					
PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:					
U.S. APPLICATIONS				STATUS (Check one)	
U.S. APPLICATION NUMBER	U.S. FILING DATE	Patented	Pending	Abandoned	
PCT APPLICATIONS DESIGNATING THE U.S.					
APPLICATION NO.	FILING DATE	US SERIAL NUMBERS ASSIGNED (if any)			
PCT/DK91/00400	December 19, 1991			x	
POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.					
Steve T. Zelson, Esq. Elias J. Lambiris, Esq. Cheryl H. Agris Reg. No. 30,335 Reg. No. 33,728 Reg. No. 34,086					
Send Correspondence to: Steve T. Zelson, Esq. Novo Nordisk of North America, Inc. 405 Lexington Avenue, Suite 6200 New York, New York 10017				Direct Telephone Calls To: Steve T. Zelson (212) 867-0123	
1	Full Name of Inventor	Family Name	First Given Name	Second Given Name	
		REX	Jørn		
	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship	
		Roskilde	Denmark	Denmark	
	Post Office Address	Post Office Address	City	State & Zip Code/Country	
		Hyldetoften 6, Gundsømagle	DK-4000 Roskilde	Denmark	
2	Full Name of Inventor	Family Name	First Given Name	Second Given Name	
		STEENGAARD	Kim		
	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship	
		Hvidovre	Denmark	Denmark	
	Post Office Address	Post Office Address	City	State & Zip Code/Country	
		Ketilstorp Allé 53	DK-2650 Hvidovre	Denmark	
3	Full Name of Inventor	Family Name	First Given Name	Second Given Name	
		ELK	Svend		
	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship	
		Birkeroed	Denmark	Denmark	
	Post Office Address	Post Office Address	City	State & Zip Code/Country	
		Lyngborghave 48	DK-3460 Birkeroed	Denmark	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.					
Signature of Inventor 1		Signature of Inventor 2		Signature of Inventor 3	
Date: 11/2-1993		Date: 3/3-1993		Date: 12/2-1993	



SAN00941671



3307 L. Spruell
5-14-93

Attorney Docket No.: 3573.204-US

PATENT

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Reg
Et
Time

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rex et al.

Serial No.: 07/793,412

Group Art Unit: 3307

Filed: January 13, 1992

Examiner: K. Asher

For: NOSE PEN

MAY 19 1993
U.S. PAT. & TM. OFF.
WASHINGTON, DC

PETITION AND FEE FOR EXTENSION OF TIME (37 C.F.R. 1.136(a))

Hon. Commissioner of Patents and Trademarks
Washington, DC 20231

Sir:

It is respectfully requested that the time for
response to Office Action dated December 1, 1992 be extended
for a period of three months from February 1, 1993 to May 1,
1993.

Fin. T. A

Please charge the total fee, estimated to be
\$840.00, to Novo Nordisk of North America, Inc., Deposit
Account No. 14-1447. A duplicate of this sheet is enclosed.

Respectfully submitted,

Date: April 27, 1993

Steve T. Zelson
Steve T. Zelson, Reg. No. 30,335

REQUEST FOR EXTENSION OF TIME IS GRANTED
AUTHORITY OF THE PRIMARY EXAMINER FOR
Novo Nordisk of North America, Inc.
405 Lexington Avenue, Suite 6200
New York, NY 10174-6201
(212) 867-0123

3 MAY 19 1993



Clerk, Group 330

I. C. P. []

ATTY Notified

P 10430 05/11/93 07793412

14-1447 100 117

840.00CH



Attorney Docket No.: 3573.204-US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rex et al.

Serial No.: 07/793,412 Group Art Unit: 3307

Filed: January 13, 1992 Examiner: K. Asher

For: NOSE PEN

EXPRESS MAIL CERTIFICATE

Hon. Commissioner of Patents and Trademarks
Washington, DC 20231

Sir:

Express Mail Label No. TB434692027US

Date of Deposit April 27, 1993

I hereby certify that the following attached
paper(s) or fee

1. Petition and Fee for Extension of Time
(in duplicate)

are being deposited with the United States Postal Service
"Express Mail Post Office to Addressee" under 37 C.F.R. 1.10
on the date indicated above and is addressed to the
Commissioner of Patents and Trademarks, Washington, DC 20231.

Daphne Ghee

(Name of person mailing paper(s) or fee)

Daphne Ghee

(Signature of person mailing paper(s) or fee)

Mailing Address:

Novo Nordisk of North America, Inc.
405 Lexington Avenue, Suite 6200
New York, NY 10017
(212) 867-0123

SAN00941673



Attorney Docket No.: 3573.214-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Anticipated Classification of this application:
Class 239 Subclass

Prior Application:
Examiner: K. Asher
Group Art Unit: 3307

FILE WRAPPER CONTINUING APPLICATION

Box FWC
Hon. Commissioner of Patents and Trademarks
Washington, DC 20231

Sir:

This is a request for filing a

- ☒ Continuation
☐ Divisional
☐ Continuation-in-part

application under 37 CFR § 1.62, of pending application Ser. No. 07/793,412 filed on January 13, 1992 for NOSE PEN by the following named inventor(s):

Jørn Rex, a citizen of Denmark, residing at Hyldetoften 6,
Gundsoemagle, DK-4000 Roskilde, Denmark;
Kim Steengaard, a citizen of Denmark, residing at Ketilstorp
Allé 53, DK-2650 Hvidovre, Denmark; and
Svend Elk, a citizen of Denmark, residing at Lyngborghave 48,
DK-3460 Birkerød, Denmark.

The above-identified prior application in which no payment of issue fee, abandonment of, or termination of proceedings has occurred, is hereby expressly abandoned as of the filing date of this new application. Please use all the contents of the prior application file wrapper, including the drawings, as the basic papers for the new application.

1. ☐ Please enter the Amendment(s) filed on _____ in the prior application.
2. ☐ A Preliminary Amendment is enclosed.
3. ☒ The filing fee is calculated on the basis of the claims existing in the prior application as amended at 1 and 2 above, if applicable.

CALCULATION OF APPLICATION FEE

Type	No. Filed	Less	Extra	Extra Rate	Fee
Total Claims	16	-20	0	\$22.00	\$ 0.00
Independent	1	-3	0	\$74.00	\$ 0.00
Basic Fee					\$ 710.00
Multiple Dependency Fee If Applicable (\$230.00)					\$ 230.00
Total Filing Fee					\$ 940.00

08/054913
L. Spruell
7-23-93
PATENT

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EO T 70 bap

4

4. [x] Please charge the required fee, estimated to be \$940.00, to Novo Nordisk of North America, Inc., Deposit Account No. 14-1447. A duplicate of this sheet is enclosed.
5. [] A new oath or declaration is included since this application is a continuation-in-part.
6. [] is included.
7. [x] Priority of application serial no. 3028/90 filed on December 21, 1990 in Denmark is claimed under 35 U.S.C. 119.
 a. [] A certified copy thereof is submitted herewith.
 b. [x] A certified copy thereof was filed in the prior PCT Application No. PCT/DK91/00400.
8. [x] The benefit of application serial no. 07/793,412 filed on January 13, 1992 in the United States and of application serial no. PCT/DK91/00400 filed on December 19, 1991 via the PCT is claimed under 35 U.S.C. 120.
9. [x] Amend the specification by inserting before the first line the sentence: This application is a
 [x] continuation
 [] divisional
 [] continuation-in-part
 application of co-pending application Serial No. 07/793,412, filed January 13, 1992, *now abandoned.*
10. [x] The prior application is assigned of record to Novo Nordisk A/S recorded on January 30, 1992, Reel 5996, Frame 0341.
11. [x] The Power of Attorney in the prior application is to Steve T. Zelson, Esq. and Elias J. Lambiris, Esq. Address all future communications to Steve T. Zelson, Esq., NOVO NORDISK OF NORTH AMERICA, INC., 405 Lexington Avenue, Suite 6200, New York, NY 10174-6201.
12. [x] Please abandon the prior application at a time while the prior application is pending or at a time when the petition for extension of time in that application is granted and when this application is pending and has been granted a filing date, so as to make this application co-pending with said prior application.

It is understood that secrecy under 35 U.S.C. § 122 is hereby waived to the extent that if information or access is available to any one of the applications in the file wrapper of a 37 C.F.R. § 1.62 application, be it either this application or a prior application in the same file wrapper, the PTO may provide similar information or access to all the other applications in the same file wrapper.

Respectfully submitted,

Steve T. Zelson
 Steve T. Zelson, Reg. No. 30,335
 Novo Nordisk of North America, Inc.
 405 Lexington Avenue, Suite 6200
 New York, NY 10174-6201
 (212) 867-0123

Date: April 27, 1993

DAVIS POLK & WARDWELL

1300 I STREET, N.W.
WASHINGTON, D.C. 20005

1600 EL CAMINO REAL
MENLO PARK, CA 94025

99 GRESHAM STREET
LONDON EC2V 7NG

15, AVENUE MATIGNON
75008 PARIS

450 LEXINGTON AVENUE
NEW YORK, N.Y. 10017
212 450 4000
FAX 212 450 3800

WRITER'S DIRECT
212 450 4881

MESSEURM
60308 FRANKFURT AM MAIN

MARQUÉS DE LA ENSENADA, 2
28004 MADRID

1-6-1 ROPPONGI
MINATO-KU, TOKYO 106-6033

3A CHATER ROAD
HONG KONG

November 3, 2006

Re: **In re Appraisal of Transkaryotic Therapies, Inc., C.A. No. 1554-N**

Arthur L. Dent, Esq.
Potter Anderson & Carroon LLP
1313 North Market Street
P.O. Box 951
Wilmington, DE 19899

Dear Art:

We write in response to your letter dated October 18, 2006. In that letter, you requested calendars or appointment books from 2004 and 2005 for the deponents in this action. Earlier this week, we provided you with calendars for Barbara Deptula and Matt Emmens. Enclosed with this letter are calendars for Wayne Yetter. In the course of collecting Mr. Yetter's calendars we have also obtained responsive emails from Mr. Yetter's personal email account. These documents are also enclosed, and together with Mr. Yetter's calendars bear production numbers TKT_APP_0502049 through TKT_APP_0503124.

We are in the process of collecting any existing calendars for the remaining deponents, and, pursuant to your request, we will endeavor to produce them at least two days before their scheduled deposition date. We are also working to confirm that we have collected and produced all responsive documents from Dennis Langer.

Finally, we also enclose documents relating to the proposed transaction with Dr. Reddy's which were previously collected, but inadvertently designated as non-responsive. These documents bear production numbers TKT_APP_0501844 through TKT_APP_0502048.

Arthur L. Dent, Esq.

2

November 3, 2006

If you have any questions, please do not hesitate to contact me.

Very truly yours,

Kevin C. Wallace / km

Kevin C. Wallace

cc: Steven T. Margolin
John Reed

By Overnight and Electronic Mail



08/054913

Attorney Docket No.: 3573.214-US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

EXPRESS MAIL CERTIFICATE

Box FWC
Hon. Commissioner of Patents and Trademarks
Washington, DC 20231

Re: U.S. Patent Application for
NOSE PEN
Continuing Application of
Serial No. 07/793,412

Applicants: Rex et al.

Sir:

Express Mail Label No. TB434692027US

Date of Deposit April 27, 1993

I hereby certify that the following attached
paper(s) or fee

1. File Wrapper Continuing Application (in
duplicate)

is being deposited with the United States Postal Service

"Express Mail Post Office to Addressee" under 37 C.F.R. 1.10

on the date indicated above and is addressed to the

Commissioner of Patents and Trademarks, Washington, DC 20231.

Daphne Ghee

(Name of person mailing paper(s) or fee)

Daphne Ghee

(Signature of person mailing paper(s) or fee)

Mailing Address:

Novo Nordisk of North America, Inc.
405 Lexington Avenue, Suite 6200
New York, NY 10017
(212) 867-0123

SAN00941676


**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

781054913	SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/054,913 04/27/93

ROSKILDE

J 3573.214US

EXAMINER

ASHER, K

ART UNIT

PAPER NUMBER

F3M1/0727

 STEVE T. ZELSON
NOVO NORDISK OF NORTH AMERICA, INC.
405 LEXINGTON AVENUE, STE. 6200
NEW YORK, NY 10174-6201

3307

DATE MAILED:

07/27/93

 This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

 A shortened statutory period for response to this action is set to expire 2 month(s), 1 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 5. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-16 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☒ Claims 1-3 are allowed.
4. ☐ Claims _____ are rejected.
5. ☒ Claims 4-16 are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☒ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☒ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

PTOL-326 (Rev. 2/93)

SAN00941677

08/054,913
3307

This application is in condition for allowance except for the following formal matters:

- 5 a) the specification and claims must be amended so as to e
in proper idiomatic English and to correct minor
errors. Examples of such are found on page 1, line 25,
"time spirit"; page 2, line 3, "0 C0"; page 8,
paragraph 3, "piston 22" and "piston rod 22" (what are
10 the proper reference numerals?); and throughout the
application, "unrotatable". These are examples only,
the entire application must be corrected.
- b) a proper abstract is required for the Printer on a
separate sheet of paper.
- 15 c) claims 4-16 are not in proper U.S. multiple dependent
claim format. Appropriate amendment of these claims
into proper U.S. form is required. Applicants' are
respectfully reminded that additional fees will be
required if the claims are put into proper U.S.
20 multiple dependent claim format, as applicants were
only charged previously for multiple dependent claim 3.
The claims are improper multiple dependent claims
because they depend upon other multiple dependent
claims.
- 25 d) In claim 1, line 17, note "directions"; in claim 1,
line 18, it is suggested that --of-- be added before
"the", and that "coupled" in line 3 be replaced with
--and means coupling said housing elements-- to improve
claim clarity; in claim 16, line 1, note "claims 14".

Serial No. 08/054,913
Art Unit 3307

Prosecution on the merits is closed in accordance with the practice under ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

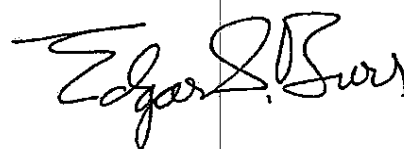
5 A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS ACTION IS
SET TO EXPIRE TWO MONTHS FROM THE DATE OF THIS LETTER.

10 The prior art made of record and not relied upon is considered
pertinent to applicant's disclosure.

Turner et al teach a dose metering dispenser comprising a
threaded plunger and spring arrangement. Holm et al teach a
great deal of applicants' claimed invention, but lack the
15 valve, spring, and a spray nozzle. Jessup teaches a syringe
sprayer. The remaining references all teach dispensers in
the form of pens which deliver metered doses by injection,
not by spraying.

20 An inquiry concerning this communication should be directed to K.
L. Asher at telephone number (703) 308-0858.

25 *KL* K. L. Asher
July 23, 1993



EDGAR S. BURR
S.P.E.
GROUP ART UNIT 337



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: ROSKILDE et al : Att.Doc.No.:3573.214-US

Serial No.: 08/054,913 : Attn: Art Unit 3307

Filed: April 27, 1993 : Examiner: K. Asher

For: NOSE PEN : Date: December 23, 1993

PETITION AND FEE FOR EXTENSION OF TIME PURSUANT TO 37 CFR
Sec.1.136(a)

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

It is respectfully requested that the time for filing a
response to the outstanding Office Action of July 27, 1993,
be extended for a period of three (3) months from September 27,
1993 to and including December 27, 1993.

Please charge the required fee, estimated to be
\$840.00, to Novo Nordisk of North America Inc. Deposit Account
No.14-1447. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

Steve T. Zelson
Steve T. Zelson (Reg.No.30,335)
Novo Nordisk of North America, Inc.
405 Lexington Avenue, Suite 6200
New York, New York 10017
(212) 867-0123

0214184 01/21/94 98054913

14-1447 140 117

840.00CH

REQUEST FOR EXTENSION OF TIME IS GRANTED BY
AUTHORITY OF THE PRIMARY EXAMINER FOR

LP 337
L. Spruell
2-1-94
#10/Reg.
Ext.
Time

RECEIVED
JAN 26 94
GROUP 330

L. Spruell
Clerk, Group 330
ATTY Notified ☐

H.O.P. ☐

SAN00941680



PATENT
THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: ROSKILDE et al : Att.Doc.No.:3573.214-US
Serial No.:08/054,913 : Attn: Art Unit 3307
Filed:April 27, 1993 : Examiner: K. Asher
For: NOSE PEN : Date: December 23, 1993

CERTIFICATE OF MAILING UNDER 37 CFR 1.8(a)

Hon. Commissioner of Patents and Trademarks
Washington, DC 20231

Sir:

I hereby certify that the attached correspondence
comprising:

- I. Petition and Fee for Extension of Time
(in duplicate)
- II. Amendment Fee Transmittal (in duplicate)
- III. Abstract and
- IV. Amendment

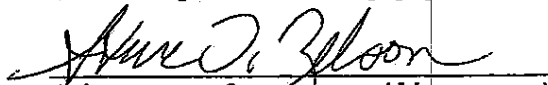
is being deposited with the United States Postal Service as first
class mail in an envelope addressed to:

Commissioner of Patents and Trademarks
Washington, DC 20231

on December 23, 1993.

Steve T. Zelson

(name of person mailing paper)


(signature of person mailing paper)



PATENT
THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: ROSKILDE et al : Att.Doc.No.:3573.214-US

Serial No.: 08/054,913 : Attn: Art Unit 3307

Filed: April 27, 1993 : Examiner: K. Asher

For: NOSE PEN : Date: December 23, 1993

AMENDMENT FEE SHEET

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

The fee required to be filed with the accompanying amendment of even date herewith concerning the above-identified application has been calculated as follows:

Claims Remaining After Amendment	Highest No Previously Paid For	Present Extra	Rate	Add. Fee
TOTAL 16 MINUS 20	=	0	x22 =	\$ 0.00
INDEP 1 MINUS 3	=	0	x74 =	\$ 0.00
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM+ \$230.00 =				
TOTAL =				\$ 0.00

Please charge the required fee, estimated to be \$0.00, to Novo Nordisk of North America Inc. Deposit Account No.14-1447. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

Steve T. Zelson (Reg.No.30,335)
Novo Nordisk of North America, Inc.
405 Lexington Avenue, Suite 6200
New York, New York 10017
(212) 867-0123

RECEIVED
JAN 26 94
GROUP 330



PATENT
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: ROSKILDE et al : Att.Doc.No.:3573.214-US
 Serial No.: 08/054,913 : Attn: Art Unit 3307
 Filed: April 27, 1993 : Examiner: K. Asher
 For: NOSE PEN : Date: December 23, 1993

AMENDMENT FEE SHEET

Honorable Commissioner of Patents and Trademarks
 Washington, D.C. 20231

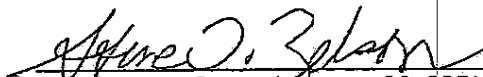
Sir:

The fee required to be filed with the accompanying amendment of even date herewith concerning the above-identified application has been calculated as follows:

Claims Remaining After Amendment	Higest No Previously Paid For	Present Extra	Rate	Add. Fee
TOTAL 16 MINUS 20	=	0	x22 =	\$ 0.00
INDEP 1 MINUS 3	=	0	x74 =	\$ 0.00
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM+ \$230.00 =				
TOTAL =				\$ 0.00

Please charge the required fee, estimated to be \$0.00, to Novo Nordisk of North America Inc. Deposit Account No.14-1447. A duplicate copy of this sheet is enclosed.

Respectfully submitted,


 Steve T. Zelson (Reg.No.30,335)
 Novo Nordisk of North America, Inc.
 405 Lexington Avenue, Suite 6200
 New York, New York 10017
 (212) 867-0123



L. Spruell
2-1-94

11/B

See ok

Boarding
2/2/94

Please enter, JA

PATENT
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: ROSKILDE et al : Att.Doc.No.:3573.214-US

Serial No.: 08/054,913 : Attn: Art Unit 3307

Filed: April 27, 1993 : Examiner: K. Asher

For: NOSE PEN : Date: December 23, 1993

AMENDMENT PURSUANT TO 37 C.F.R. SECTION 1.115

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

In response to the Office Action of July 27, 1993, please consider the following amendments and remarks. The Outstanding Office Action indicated the application was in condition for allowance except for formal matters which have been addressed in this Amendment.

IN THE SPECIFICATION

Applicants, pursuant to the request in the Outstanding Office Action have included herewith an Abstract on a separate sheet of paper.

On page 1 line 25, please change "time spirit" to
--current trend--.

On page 2 lines 11-12 and 13, please change "unrotatably" to
--irrotational--.

1

B

On page 3 line 3, please change "0-30°0" to
-- 0-30° --.

On page 4, line 20, please change "unrotatable" to
--irrotational--.

On page 7, line 5, please change "unrotatable" to
--irrotational--.

On page 7, line 18, please change "inrotatable" to
--irrotational--.

On page 8, line 12, please change "22" to
--21--.

IN THE CLAIMS

Please amend claim 1 as follows:

1. (FIRST AMENDMENT) A device for nasal administration of a number of measured doses of a liquid medicine, especially insulin, comprising a first and a second housing element [coupled] and means coupling said housing elements together to allow rotation but no axial displacement of the first housing element (1) with respect to the second housing element (2), said first housing element (1) comprising a cartridge containing ^{a first} ~~the~~ liquid ^{medicine} and being sealed by a piston (21) at ^{a first} ~~the~~ end coupled to the second housing element (2) and being at its other end closed by a valve (7,9) to communicate the liquid ^{medicine} in the cartridge with a spray nozzle (12) ~~when opened~~, characterized in that the device further comprises a threaded piston rod (22) engaging the piston (21) of the cartridge [unrotatably] irrotational with respect to the first housing element (1) and disposed in the second housing element (2) to move axially therein, a nut element (27) mounted [unrotatably]

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irrotational but axially displaceably in the second housing element (2) and engaging the thread of the piston rod (22), a helical spring (32) abutting at its one end an internal annular abutment on the second housing element (2) and at its other end a shoulder on the nut element (27) to press ^{the} ~~this~~ nut element and thereby the piston rod (22) and the piston (21) in the [directions] ^{an} ~~direction towards the~~ outlet end of the cartridge ^{to set} ~~setting~~ the liquid ^{medicine} ~~therein~~ under pressure, ^{means} ~~to be released by~~ opening ^{of} ~~the valve (7,9)~~ for spraying out a dose of the liquid; the housing elements (1,2), the ^{piston} ~~rod~~ (22), and the nut element (27) cooperating so that relative rotation between the housing elements (1,2) in a selected direction causes relative rotation between the rod (22) and the nut element, making the nut element move axially in the second housing element (2) in a direction to compress the helical spring (32).

Please amend claim 3 as follows:

In line one please delete the term "or 2".

Please amend claim 4 as follows:

In line one please delete the term "any of the preceding claims" and replace it with --claim 1--.

Please amend claim 5 as follows:

In line one please delete the term "any of the preceding claims" and replace it with --claim 1--.

Please amend claim 6 as follows:

In line one please delete the term "any of the preceding claims" and replace it with --claim 1--.

Please amend claim 7 as follows:

In line one please delete the term "any of the preceding claims" and replace it with --claim 1--.

Please amend claim 13 as follows:

In line one please delete the term "any of the preceding claims" and replace it with --claim 1-- and

In line 2 please delete the term "unrotatable" and replace it with --irrotational--.

Please amend claim 14 as follows:

In line one please delete the word "claims" and replace it with --claim--.

Please amend claim 16 as follows:

In line one please delete the word "claims" and replace it with --claim--.

R E M A R K S

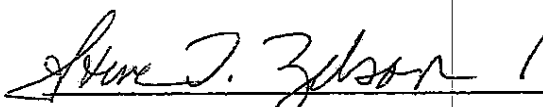
Reconsideration of the application is requested in view of the above amendments and the following remarks. The Specification and Claims 1, 3, 4, 5, 6, 7, 13, 14 and 16 have been amended herein in order to correct certain informalities in order to place the application in condition for allowance.

Applicants have also filed concurrently herewith an Extension of Time extending the time to respond to the Outstanding Office Action by three months to and including December 27, 1993.

Applicants have made all of the changes suggested in the instant Office Action. Specifically concerning the changes to the specification, Applicants note that "time spirit", which is found in Websters Dictionary, means "current trend". In addition, "unrotatable" has been changed to the equivalent term found in Websters Dictionary, "irrotational".

Therefore, in view of the foregoing amendments, Applicant respectfully submits that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Steve T. Zelson", is written over a horizontal line.

Steve T. Zelson (Reg.No.30,335)
Novo Nordisk of North America, Inc.
405 Lexington Avenue, Suite 6200
New York, New York 10017
(212) 867-0123



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/054,913	04/27/93	ROSKILDE	2573,214US

STEVE T. ZELSON
NOVO NORDISK OF NORTH AMERICA, INC.,
405 LEXINGTON AVENUE, STE. 6200
NEW YORK, NY 10174-6201

F3M1/0203

ASHER, K. EXAMINER	
ART UNIT	PAPER NUMBER
3307	12
DATE MAILED:	

02/03/94

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

1. ☒ The communication filed 12/23/93 is informal/non-responsive for the reason(s) checked below and should be corrected. *30 day*
SSB
APPLICANT IS GIVEN ONE MONTH FROM THE DATE OF THIS LETTER OR UNTIL THE EXPIRATION OF THE PERIOD FOR RESPONSE SET IN THE LAST OFFICE ACTION (WHICHEVER IS LONGER) WITHIN WHICH TO CORRECT THE INFORMALITY.

- a. ☐ The amendment to claim(s) _____, filed _____, fails to comply with the provisions of 37 C.F.R. 1.121 and is accordingly held to be non-responsive. A supplemental paper correcting the informal portions and complying with the rule is required.
- b. ☐ The paper is unsigned. A duplicate paper or ratification, properly signed, is required.
- c. ☐ The paper is signed by _____, who is not of record. A ratification or a new power of attorney with a ratification, or a duplicate paper signed by a person of record, is required.
- d. ☐ The communication is presented on paper which will not provide a permanent copy. A permanent copy, or a request that a permanent copy be made by the Office at applicant's expense, is required, see M.P.E.P. 714.07.
- e. ☒ Other *Amendment appears to be a bona fide attempt to correct the informalities present, however, numerous informalities remain that must be corrected.*
2. ☐ In accordance with applicant's request, THE PERIOD FOR RESPONSE FROM THE OFFICE ACTION DATED _____ IS EXTENDED TO RUN _____ MONTH(S).
No further extension will be granted unless approved by the Commissioner. 37 C.F.R. 1.136 (b)
3. ☐ Receipt is acknowledged of papers submitted under 35 U.S.C. 119 which papers have been made of record in the file.
4. ☐ Other

Edgar S. Burr

EDGAR S. BURR
S.P.E.
GROUP ART UNIT 337



UNITED STATES DEPARTMENT OF COMMERCE
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Washington, D.C. 20231

08/054913

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT	PAPER NUMBER
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DATE MAILED:

13

EXAMINER INTERVIEW SUMMARY RECORD

All participants (applicant, applicant's representative, PTO personnel):

- (1) Mr. Steve Belson (3) _____
(2) Ex. Kimberly Asher (4) _____

Date of interview telephonic 3/4, 1994Type: ☒ Telephonic ☐ Personal (copy is given to ☐ applicant ☐ applicant's representative).Exhibit shown or demonstration conducted: ☐ Yes ☒ No. If yes, brief description: _____Agreement ☒ was reached with respect to some or all of the claims in question. ☐ was not reached.Claims discussed: 1, 7, 8, 11, 12, 814-16Identification of prior art discussed: n/a

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: The Examiner called to suggest an Examiner's Amendment to correct minor informalities in the claims. Mr. Belson authorized the Ex's Amendment.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

☒ 1. It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph below has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW (e.g., items 1-7 on the reverse side of this form). If a response to the last Office action has already been filed, then applicant is given one month from this interview date to provide a statement of the substance of the interview.

☒ 2. Since the examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action. Applicant is not relieved from providing a separate record of the substance of the interview unless box 1 above is also checked.

Kimberly A. Asher
Examiner's Signature

PTOL-413 (REV. 2-93)

ORIGINAL FOR INSERTION IN RIGHT HAND FLAP OF OFFICE WRAPPER

SAN00941690



UNITED STATES DEPARTMENT OF COMMERCE

Patent and Trademark Office

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Washington, D.C. 20231

08/054913 SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT	PAPER NUMBER
----------	--------------

DATE MAILED:

13

EXAMINER INTERVIEW SUMMARY RECORD

All participants (applicant, applicant's representative, PTO personnel):

- (1) Mr. Steve Blyson (3) _____
 (2) Ex. Kimberly Asher (4) _____

Date of interview February 3rd, 1994Type: ☒ Telephonic ☐ Personal (copy is given to ☐ applicant ☐ applicant's representative).Exhibit shown or demonstration conducted: ☐ Yes ☒ No. If yes, brief description: _____Agreement ☒ was reached with respect to some or all of the claims in question. ☐ was not reached.Claims discussed: 1, 7, 8, 11, 12, 814-16Identification of prior art discussed: n/a

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: The Examiner called to suggest an Examiner's Amendment to correct minor informalities in the claims. Mr. Blyson authorized the Ex's Amendment.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

☒ 1. It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph below has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW (e.g., items 1-7 on the reverse side of this form). If a response to the last Office action has already been filed, then applicant is given one month from this interview date to provide a statement of the substance of the interview.

☒ 2. Since the examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action. Applicant is not relieved from providing a separate record of the substance of the interview unless box 1 above is also checked.

Kimberly A. Asher
 Examiner's Signature

PTOL-413 (REV. 2-83)

ORIGINAL FOR INSERTION IN RIGHT HAND FLAP OF ERIE WRAPPER

SAN00941691



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Washington, D.C. 20231

08/054913

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/054,913	04/27/93	ROSKILDE	

STEVE T. ZELSON
NOVO NORDISK OF NORTH AMERICA, INC.
405 LEXINGTON AVENUE, STE. 6200
NEW YORK, NY 10174-6201

F3M1/0208

J 3573.214US
EXAMINER
ASHER, K

ART UNIT PAPER NUMBER
3307 *14/C*

DATE MAILED: 02/08/94

NOTICE OF ALLOWABILITY

PART I

- ☒ This communication is responsive to *the telephone int. of 8/27/94 and Ex's Amendment*
- ☒ All the claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice Of Allowance And Issue Fee Due or other appropriate communication will be sent in due course.
- ☒ The allowed claims are *1-10*
- ☒ The drawings filed on *1/13/92* are acceptable.
- ☒ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified *copy* has ☒ been received. [] not been received. [] has been filed in parent application Serial No. *03/793412* filed on *1/13/92*
- ☒ Note the attached Examiner's Amendment.
- ☒ Note the attached Examiner Interview Summary Record, PTOL-413.
- ☐ Note the attached Examiner's Statement of Reasons for Allowance.
- ☐ Note the attached NOTICE OF REFERENCES CITED, PTO-892.
- ☐ Note the attached INFORMATION DISCLOSURE CITATION, PTO-1449.

PART II

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" indicated on this form. Failure to timely comply will result in the ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OF DECLARATION IS REQUIRED.
- ☐ APPLICANT MUST MAKE THE DRAWING CHANGES INDICATED BELOW IN THE MANNER SET FORTH ON THE REVERSE SIDE OF THIS PAPER.
 - ☐ Drawing informalities are indicated on the NOTICE RE PATENT DRAWINGS, PTO-948, attached hereto or to Paper No. *_____*. CORRECTION IS REQUIRED.
 - ☐ The proposed drawing correction filed on *_____* has been approved by the examiner. CORRECTION IS REQUIRED.
 - ☐ Approved drawing corrections are described by the examiner in the attached EXAMINER'S AMENDMENT. CORRECTION IS REQUIRED.
 - ☐ Formal drawings are now REQUIRED.

Any response to this letter should include in the upper right hand corner, the following information from the NOTICE OF ALLOWANCE AND ISSUE FEE DUE: ISSUE BATCH NUMBER, DATE OF THE NOTICE OF ALLOWANCE, AND SERIAL NUMBER.

Attachments:

- ☒ Examiner's Amendment
- ☒ Examiner Interview Summary Record, PTOL-413
- ☐ Reasons for Allowance
- ☐ Notice of References Cited, PTO-892
- ☐ Information Disclosure Citation, PTO-1449

- ☐ Notice of Informal Application, PTO-152
- ☐ Notice re Patent Drawings, PTO-948
- ☐ Listing of Bonded Draftsmen
- ☐ Other

* *The title has been changed to -- Device for Nasal Delivery of Liquid Medications --*

Edgar S Burr
EDGAR S. BURR
S.P.E.
GROUP ART UNIT 237

Serial No. 88/254,913
Art Unit 3307

5 An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the Issue Fee.

10 In claim 1, line 7, "the" was deleted, and --medicine-- was inserted after "liquid"; in line 8, "the" (first occurrence) was replaced with --a first--; in line 10, --medicine-- was inserted after "liquid", and --upon opening of said ^{valve} ~~cartridge~~-- was inserted after ^{RA} "nozzle (12)"; in line 11, "when opened" was deleted; in line 18, "its" was deleted; in line 20, "this" was replaced by --the--; in line 22, "the" was replaced with --an--, and --to set-- was inserted after "cartridge"; in line 23, "setting" was deleted, --medicine-- was inserted after "liquid", a comma was added after "pressure", and "to be released by" was deleted; in line 24, "opening of the valve (7,9)" was replaced with --means--, and

192
SAN00941693

Serial No. 08/054,913
Art Unit 3307

Ca

5

In claim 7,

10

~~--medicine under pressure upon~~

opening said valve-- was inserted

after "liquid"; in

line 25, ~~--piston--~~ was inserted before

"rod"; and in

line 28, a comma was inserted after

"element", (first occurrence).

line 1, ~~--further--~~ was inserted before

"characterized"; in

line 2, "that it has" was deleted; and in

line 3, "abutting when mounted there on"

was replaced with ~~--having abutting~~

CB

15

In claim 8,

line 3, "to measure" was replaced with

~~--for measuring--~~.

In claim 11,

line 2, ~~--of the protective cap and the~~

second housing element-- was

inserted after "edges".

20

In claim 12,

lines 2 and 3, "edge" was replaced with

~~--edges--~~.

In claim 14,

line 2, "limiting is" was replaced with

~~--and limits--~~; and in

20³

Serial No. 88/854,913
Art Unit 3307

5 In claim 15, line 3, --of the nut element-- was inserted
after "movement".

line 1, "13" was changed to --14--, and
"abutting" was replaced with
--abutment between--; and in
line 2, "faces of" was deleted.

10 In claim 16, line 1, "14" was changed to --15--; in
line 3, "the" (first occurrence) was
replaced with --an--, and "this"
was replaced with --the--; in
line 4, "this" was replaced with --the--,
and --of the second housing
element-- was inserted after "end";
and in
15 line 5, "anti-rotary" was replaced with
--anti-rotation--, and "member" was
replaced with --element--.

20 These changes were made to provide claim definiteness, proper
antecedent basis, and proper claim dependencies.

25 Authorization for this Examiner's Amendment was given in a
telephone interview with Mr. Steve Zelson on February 4, 1994.

An inquiry concerning this communication should be directed to K.
L. Asher at telephone number (703) 309-8858.

30 *K. L. Asher*
February 03, 1994

Edgar S. Burr
EDGAR S. BURR
S.P.E.
GROUP ART UNIT 337

SAN00941695



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

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Washington, D.C. 20231

F3M170208

STEVE T. ZELSON
NOVO NORDISK OF NORTH AMERICA, INC.
405 LEXINGTON AVENUE, STE. 6200
NEW YORK, NY 10174-6201

**NOTICE OF ALLOWANCE
AND ISSUE FEE DUE**

- ☐ Note attached communication from the Examiner
☐ This notice is issued in view of applicant's communication filed

SERIES CODE/SERIAL NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
First Name: 8/054,913 Applicant	04/27/93	016	ASHER, K	3387 02/08/94
TITLE OF INVENTION		JORN R.		
ROSKILDE, DEVICE FOR NASAL DELIVERY OF LIQUID MEDICATIONS (AS AMENDED)				

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE

~~THE FEE DUE IS THE AMOUNT IN EFFECT AT THIS TIME. IF THE AMOUNT OF THE ISSUE FEE INCREASES PRIOR TO PAYMENT, APPLICANT WILL BE NOTIFIED OF THE BALANCE OF ISSUE FEE DUE.~~

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT.

PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

- I. Review the SMALL ENTITY Status shown above.
If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:
 - A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the patent and Trademark Office of the change in status, or
 - B. If the Status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, pay of 1/2 the FEE DUE shown above.

- II. Part B of this notice should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B should be completed and returned. If you are charging the ISSUE FEE to your deposit account, Part C of this notice should also be completed and returned.

- III. All communications regarding this application must give series code (or filing date) and serial number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to contrary.

IMPORTANT REMINDER: Patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PATENT AND TRADEMARK OFFICE COPY

*The
United
States
of
America*



PTO-1584

PTO UTILITY GRANT
Paper Number 15

The Commissioner of Patents
and Trademarks

*Has received an application for a patent
for a new and useful invention. The title
and description of the invention are en-
closed. The requirements of law have
been complied with, and it has been de-
termined that a patent on the invention
shall be granted under the law.*

Therefore, this

United States Patent

*Grants to the person or persons having
title to this patent the right to exclude
others from making, using or selling the
invention throughout the United States
of America for the term of seventeen
years from the date of this patent, sub-
ject to the payment of maintenance fees
as provided by law.*

Bruce Lehman

Commissioner of Patents and Trademarks

Maricella A. Miller

Attest

(RIGHT INSIDE)

PH-101A

SAN00941697



US005331954A

United States Patent [19]

[11] Patent Number: 5,331,954

Rex et al.

[45] Date of Patent: Jul. 26, 1994

[54] DEVICE FOR NASAL DELIVERY OF LIQUID MEDICATIONS

[75] Inventors: Jorn Rex, Roskilde; Kim Steengaard, Hvidovre; Svend Elk, Birkerød, all of Denmark

[73] Assignee: Novo Nordisk A/S, Bagsvaerd, Denmark

[21] Appl. No.: 54,913

[22] Filed: Apr. 27, 1993

Related U.S. Application Data

[63] Continuation of Ser. No. 793,112, Jan. 13, 1992, abandoned.

[30] Foreign Application Priority Data

Dec. 21, 1990 [DK] Denmark 3028/90

[51] Int. Cl.⁵ A61M 15/08; A61M 11/00; A61M 5/00; A62B 7/00

[52] U.S. Cl. 128/200.22; 128/207.18; 128/200.14; 604/232; 604/211

[58] Field of Search 128/200.19, 200.22, 203.12, 203.19, 203.21, 203.22, 203.23, 207.18; 604/207-209, 211, 218, 232, 135

[56] References Cited

U.S. PATENT DOCUMENTS

4,405,308 9/1983 Jessup 128/200.22
 4,413,760 11/1983 Paton 604/209
 4,498,904 2/1985 Turner et al 604/211

4,962,868 10/1990 Borchard 222/49
 4,973,314 11/1990 Holm et al 604/211
 5,017,190 5/1991 Simon et al 604/209
 5,104,380 4/1992 Holman et al 604/232
 5,112,317 5/1992 Michel 604/232
 5,114,406 5/1992 Gabriel et al 604/232

FOREIGN PATENT DOCUMENTS

0308100 3/1989 European Pat. Off. .
 WO91/15303 10/1991 PCT Int'l Appl. .
 1379688 1/1975 United Kingdom .

Primary Examiner—Edgar S. Burr

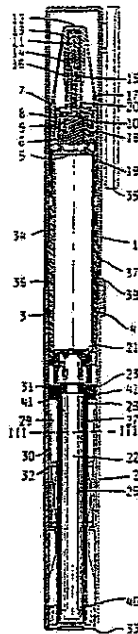
Assistant Examiner—Kimberly L. Asher

Attorney, Agent, or Firm—Steve T. Zelson

[57] ABSTRACT

A pen shaped device for nasal administration of doses of a liquid medicine, comprising a first and a second housing element, the first housing element (1) comprising a cartridge for the medicine, this cartridge being at one end closed by a piston (21) and being at its other end closed by a valve (7,9), which may be opened to connect the cartridge to a spray nozzle (12). When the two housing elements are rotated relatively to each other, a nut member (27) is proportional to the rotation moved along a threaded piston rod (22) to compress a helical spring (32) to act via the nut element (27) and the piston rod (22) on the piston (21) to put the content of the cartridge under pressure, which pressure may be released by opening the valve (7,9) to lead the medicine in the cartridge to the nozzle (12).

16 Claims, 2 Drawing Sheets



U.S. Patent

July 26, 1994

Sheet 1 of 2

5,331,954

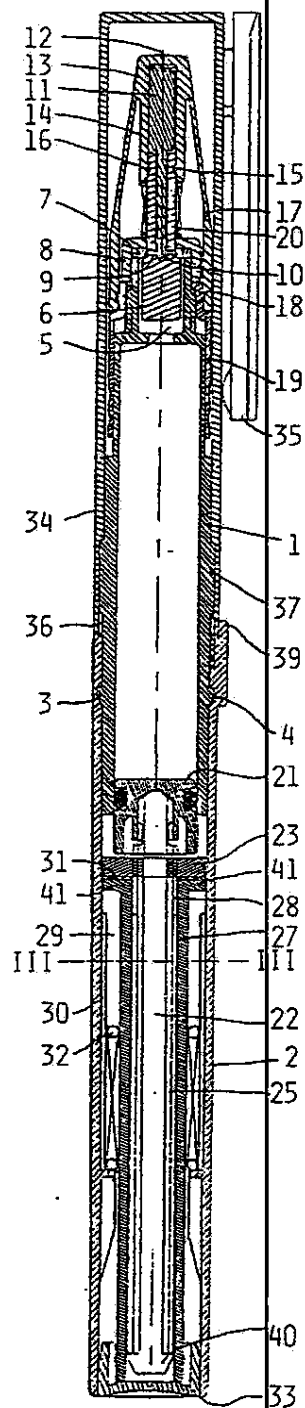


Fig. 1

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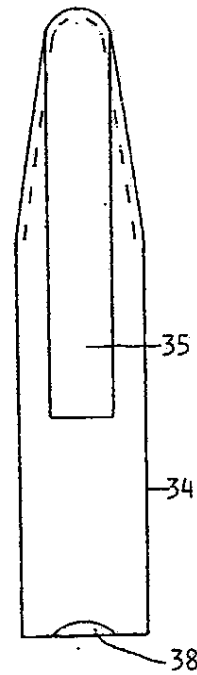


Fig. 2

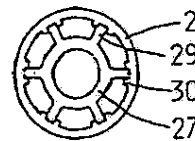


Fig. 3

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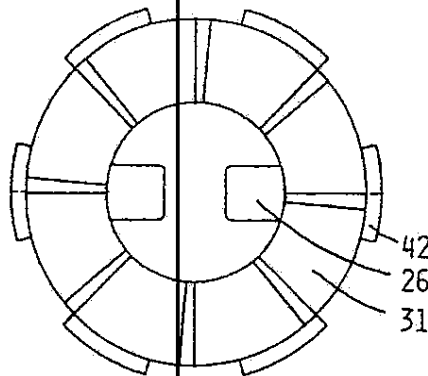


Fig. 4

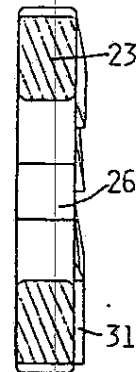


Fig. 5

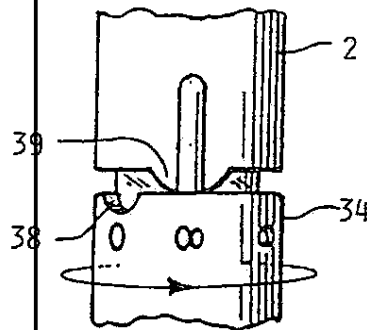


Fig. 6

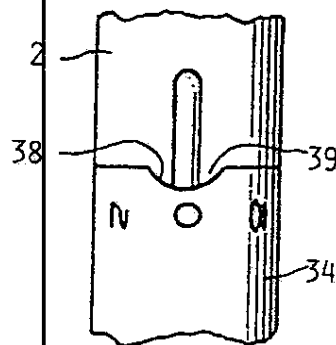


Fig. 7

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DEVICE FOR NASAL DELIVERY OF LIQUID MEDICATIONS

This application is a continuation application of co-
pending application Ser. No. 07/793,412, filed Jan. 13,
1992, now abandoned.

The invention concerns a dispensing device for dis-
pensing dosed quantities of a fluid medicine as an aéro-
sol, e.g. insulin, to be assimilated through the nasal
mucous membranes.

Many sorts of medicine are not appropriate for being
orally consumed as they are destroyed very quickly in
the alimentary canal. Such medicines, therefore, have to
be injected to be directly assimilated in the blood.

When such medicines have to be taken frequently
through a long period or even the life long as it is the
case with, e.g. insulin for diabetics, the wish for a
method of taking the medicines without frequent injec-
tions occurs. Here the assimilation through the nasal
mucous membranes is seen as a solution.

From European Patent Application No. 308,100 is
known a dispensing apparatus for dispensing metered
quantities of pressurized fluid and in particular for nasal
administration of insulin.

EP 308,100 meets the wishes for a device which may
be used for nasal administration of e.g. insulin, as an
activation of the device releases a metered quantity of
liquid. However, the amount of liquid released by each
activation is preset by the manufacturer of the spray
valve, and if a bigger dose than this preset one is
wanted, the device must be activated repetitively until
the wanted dose is dispensed.

The use of a propellant gas as in EP 308,100 is unde-
sirable for more reasons. First of all, precaution should
be taken to assure that the propellant gas is kept out of
contact with the medicine. Further, the content of suffi-
cient propellant gas to dispense the total content of
medicine involves the risk that an overdose is dispensed
if the metering valve fails. Finally, as the device is in-
tended to be disposed of when the medicine content is
used up, it is against the current trend to use disposable
devices containing propellant gases.

Consequently, it is the object of the invention to
provide a dispensing apparatus for nasal administration
of medicine such as insulin in preset doses without the
use of a propellant gas. Another object is to provide a
device which has the same neutral pen shape as the
known pen syringes for subcutaneous injection of insu-
lin.

This is obtained by a device for nasal administration
of a number of measured doses of a liquid medicine,
especially insulin, comprising a first and a second hous-
ing element coupled together to allow rotation but no
axial displacement of the first housing element with
respect to the second housing element, said first housing
element comprising a cartridge containing the liquid
and being sealed by a piston at the end coupled to the
second housing element and being at its other end
closed by a valve to communicate the liquid in the
cartridge with a spray nozzle when opened, the device
according to the invention being characterized in that it
further comprises a threaded piston rod engaging the
piston of the cartridge irrotational with respect to the
first housing element and disposed in the second hous-
ing element to move axially therein, a nut element
mounted irrotational but axially displaceably in the sec-
ond housing element and engaging the thread of the

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piston rod, a helical spring abutting at its one end an
internal annular abutment on the second housing ele-
ment and at its other end a shoulder on the nut element
to press this nut element and thereby the piston rod and
the piston in the directions towards the outlet end of the
cartridge setting the liquid therein under pressure to be
released by opening the valve for spraying out a dose of
the liquid, the housing elements, the rod, and the nut
cooperating so that relative rotation between the hous-
ing elements in a selected direction causes relative rota-
tion between the rod and the nut element making the
nut element move axially in the second housing element
in a direction to compress the helical spring.

The device according to the invention further pro-
vides a dispenser which will work in all positions and in
which the liquid remains sterile as no unclean air is to
replace the liquid removed from the cartridge during
the spraying.

According to the invention, the piston rod may be
snap locked into the piston preventing a possible vac-
uum, which may emerge in the cartridge, from drawing
the piston into the cartridge leaving an axial play be-
tween the piston rod and the piston.

To ensure that the liquid will hit the part of the nasal
mucous membrane which is effective in assimilating the
medicine, the nozzle is appropriately made to spray out
the liquid at an angle of 0°-30° defining the spray as
ranging from a jet spray to a fan shaped spray.

The nut element may define at least one radially pro-
truding axially extending projection on an exterior por-
tion thereof, and this projection or these projections
may be received in one or more corresponding axially
extending groove or grooves in an inner portion of the
second housing element thereby providing a coupling
between this housing element and the nut element en-
suring that the nut element may be rotated with the
second housing element and be axially displaced in this
housing element.

A stop may be provided limiting the axial movement
of the nut element into the second housing element, thus
limiting the loading of the device to a set maximum
dose.

Also the movement of the nut element along the
piston rod may be limited to avoid setting a larger dose
than actually remains in the cartridge.

In a preferred embodiment of the invention, the de-
vice has a removable protective cap configured to re-
ceive the first housing element and abutting when
mounted there on the second housing element; and
means for releasably coupling the protective cap and
the first housing element for rotation together, so that
rotation of the protective cap with respect to the second
housing element causes rotation of the first housing
element with respect to the second housing element.

The abutting edges of the second housing element
and the protective cap may comprise pointing means
and scale means, respectively, to measure the relative
rotation of the protective cap, and thereby the first
housing element, with respect to the second housing
element. The displacement of the nut element is propor-
tional to this relative rotation and the measuring of the
relative rotation consequently is a measuring of the set
dose.

Means may be provided for providing detents at se-
lected rotational positions of the first housing element
with respect to the second housing element making the
extend of the relative rotation hearable, tactile, and
visible as a click is heard and a resistance variation is felt

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each time a detent is passed during the relative rotation the size of which may be seen from the relative position of the pointing means and the scale.

The coupling means for coupling the protective cap to receive the first housing element in multiple different angular positions of the protective cap with respect to the first housing element to allow the protective cap to be oriented at a selected position with respect to the second housing element, regardless of the detent rotational position of the first housing element in the second housing element. This way it is always possible to mount the protective cap in position with the "O" of its scale in line with the pointing means on the second housing element.

By the abutting edges having interlocking means for defining a selected angular position of the protective cap with respect to the second housing element it may be ensured that the cap is mounted in its O-position when the pen is stored away after use. The interlocking means may appropriately comprise a recess on the abutting edge of the protective cap and a projection on the abutting edge of the second housing element, the projection being shaped to fit into the recess to define the selected position.

In a preferred embodiment of the device according to the invention, the piston rod is made irrotational by fitting through an opening in an anti-rotation disc, the opening being circular with at least one projection protruding into the opening, by the piston rod having a corresponding profile with recesses corresponding to the projections, and by the anti-rotary disc being at its periphery provided with alternating spaces and teeth fitting into a castellated end of the first housing element. Further, the anti-rotary disc serves as an abutment for the nut element limiting the movement of this element towards the cartridge.

The abutting faces of the nut element and the anti-rotary disc are shaped as annular ramps which when in mutual abutment allow only relative rotation of the first and second housing elements in a device loading direction. Thereby it is precluded that a relative rotation in a direction to unload the device to annul a set dose is continued when the device is unloaded. Such a continued relative rotation could draw the piston rod free of the piston and provide an axial play which would undermine the correct dosing.

In a preferred embodiment, the nut element may have a tubular extension coaxially surrounding the piston rod and terminated by a knob at the outer end of the second housing element, this knob being flush with the edge of this outer end, when the annular ramps of the anti-rotary disc and the nut member are in a mutual abutment giving a tactile and visible indication whether the device is loaded or not.

In the following the invention is specified in further detail with reference to the drawing in which

FIG. 1 shows a plan view of a dispenser according to the invention,

FIG. 2 shows a plan view of the protective cap,

FIG. 3 shows a sectional view along the line III—III in FIG. 1, but without the piston rod,

FIG. 4 shows an enlarged plan view of the anti-rotary disc,

FIG. 5 shows a side view of the disc in FIG. 4.

FIG. 6 shows an enlarged detail of the abutting edges of the protective cap and the second housing element in dose setting position, and

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FIG. 7 shows the detail of FIG. 6 in closed position for storing.

FIG. 1 shows a pen shaped device having a first housing element 1 and a second housing element 2 snapped together by an external bead 3, and the first housing element 1 being snapped into an annular groove 4 in the second housing element 2 permitting the two housing elements to be rotated in relation to each other about the common length axis, but not to be displaced in relation to each other along this axis.

The first housing element 1 forms a cartridge for a liquid medicine and is at its one end provided with a neck forming a valve chamber 5 communicating at its one end with the housing element and being at its other end closed by a valve block 6 fitting into an annular sealing 7 fitted to the valve chamber 5 by a ferrule 8. The valve block has radial ducts 9 leading to a central bore 10 and being at the outer ends sealed by the inner cylindric surface of the annular sealing 7 when the valve is closed. An inner element 11 of a spray nozzle has a rod fitting into the bore 10 with a small clearance leaving a duct leading to a spray nozzle 12 in a nozzle element 13 surrounding the inner element 11 leaving a fine duct from the bore 10 to the nozzle 12.

The nozzle element 13 is provided with a tubular central part 14 fitting over the part with the bore 10. An internal annular bead 15 in the part 14 is lodged in an annular groove 16 in the part with the central bore.

The nozzle element 13 further comprises a skirt 17 surrounding at some distance the tubular central part 14 and being at its edge snapped on the neck 18 of a release member 19 fitting over the outer end of the cartridge, the neck 18 of the release member 19 being so much shorter than the neck of the cartridge that it may be axially displaced along the neck of the cartridge limited by its outer end abutting the ferrule or by its shoulder abutting the shoulder of the cartridge.

The nozzle element and release member 19 are kept in their position with the neck 18 of the release member 19 abutting the ferrule 8 by a helical spring 20 surrounding the central part 14 of the nozzle element 13 abutting at its one end the ferrule 8 and at its other end a contact face between the central part 14 and the skirt 17 of the nozzle element 13. In this position the radial ducts 9 lie opposite the sealing 7 and the valve is closed. When the release member 19 is displaced in its axial direction to bring its internal shoulders in abutment with the outer shoulders of the cartridge, the radial ducts 9 are passed past the sealing 7 and into the valve chamber 5 and a communication between the liquid in the cartridge is established through the chamber 5, the radial ducts 9, the bore 10 and the clearance between the inner element 11 and the nozzle element 13 to the spray nozzle 12. This way the liquid in the cartridge will be sprayed out through the nozzle 12 when set under pressure as described below.

The pressure in the cartridge is provided by exerting upon a piston 21, which closes the end of the cartridge opposite the neck, a force trying to force this piston into the cartridge. A sealing element, which here is shown as an O-ring mounted in a circumferential groove in the piston, provides a sealing between the piston and the cartridge wall.

A piston rod 22 engaging the piston 21 protrudes through an anti rotary disc 23 mounted at the end of the first housing element 1 to make the piston rod irrotational in relation to this housing element.

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This may be obtained by the disc, as shown in FIGS. 4 and 5 having spaced teeth 42 along its periphery fitting into a castellated end of the first housing element and by the piston rod having a non-circular profile fitting into a corresponding central opening in the disc. The piston rod is a mainly cylindric, threaded rod having diametrically opposite axial recesses 25 engaged by corresponding diametrically opposite projections 26 in the mainly circular opening of the anti-rotary disc.

The mainly cylindric piston rod 22 is threaded and is surrounded by a nut element 27 having at its end facing and abutting the anti-rotary disc a short internal thread 28, the rest of the inner surface of the nut element 27 being smooth fitting over the threaded piston rod to guide this rod in its axial movement. The nut element has at its threaded end external axial ribs 29 engaging internal axial grooves in the second housing element 2 making the nut element 27 irrotational, but axially displaceable in this housing element.

The grooves in the second housing element are each defined by pairs of spaced internal projections 30 in the second housing element. Together with the ribs 29 ending in a plate 41 at the end abutting the anti-rotary disc the projections 30 define a stop for the movement of the nut element as the plate 41 fits closely into the circular bore of the second housing element and consequently will abut the ends of the projections 30 when the nut element is displaced into the second housing element. Thereby the maximal loading of the device is limited.

When the piston rod 22 is rotated relatively to the nut element 27 in one direction by rotating the first housing element relatively to the second housing element the nut element is moved away from its abutment 31 on the anti-rotary disc 23 and is displaced further into the second housing element compressing a helical spring 32 abutting at its one end the nut element and at its other end a protrusion on the inner surface of the tubular second housing element. The compressed spring 32 will try to press the nut element back to abut the disc 23, and this force exerted on the nut member will be transmitted to the piston rod and the piston through the threads in the nut element on the piston rod, thereby setting the content of the cartridge under pressure. This pressure may be released by operating the valve to spray out the preselected dose of the medicine in the cartridge. During this spraying the piston is moved into the cartridge until the nut member abuts the disc 23 again.

At its end opposite the piston the piston rod is provided with a head 40 limiting the movement of the nut element along the piston rod to assure that a dose exceeding the remaining liquid in the cartridge may not be preset.

The engagement between the piston rod 22 and the piston 21 is performed as a snap lock. This way the piston 21 may be driven into the cartridge by the piston rod 22, the snap lock connection being flexible to permit the piston to follow marginal volume variations caused by temperature variations.

The loading of the device by turning the housing elements 1 and 2 in one direction relatively to each other may also be annulled by rotating the two housing elements in the opposite direction relatively to each other until the nut element is displaced to abut the disc again. The mutually abutting surfaces of the nut element and the disc 23 are provided with respective ramps to prevent further relative rotation in this direction when the nut member abuts the disc. This way it is prevented that a further relative rotation of the housing elements

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in this direction will cause the piston rod to be drawn out of engagement with the piston.

The end of the tubular nut element opposite the disc is provided with a knob 33 having an outer cylindric surface fitting guidingly into the bore of the tubular second housing element and an end surface flush with the end edge of the second housing element when the device is not loaded. When the device is loaded and the nut element is displaced away from the disc, the knob is protruding from the end of the second housing element giving a tactile and visible information of the status of the device, i.e. whether the device is loaded or not.

The spray nozzle element 13 is covered by a cap 34 when the device is not in use. This cap is provided with a clip 35, so that it can be carried in a pocket like a pencil. The cap 34 fits over the first housing element 1 and when fitted on is adjacent to and flush with the second housing element 2. The adjacent edges of the second housing element 2 and the cap 34 are provided with a projection 38 and a corresponding recess 39, respectively, the projection engaging the depression when the cap is fitted on.

The cap is provided with internal grooves 36 engaged by external ribs 37 on the first housing element 1. Thereby the cap can be used for rotating the first housing element 1 relatively to the second housing element 2 when the cap is appropriately axially displaced on the first housing element to bring the projection 38 out of engagement with the recess 39. The projection 39 is made as an arrow pointing on a scale on the cap, so that a dosing measured in units may be set by the turning of the two housing elements relatively to each other. The rotatable connection between the two housing elements is provided with a click mechanism providing a hearable and perceptible click at each two units set.

When the dose is set, the cap is removed from the device and the nozzle element is inserted in a nostril, and the release member 19 is pulled further over the first housing element to release the dose which is sprayed out through the nozzle at an angle of 0°-30°. After use the cap is again fitted over the first housing element in a rotary position making the projection 38 engage the depression 39.

The first housing element forming the cartridge is made of a transparent material allowing the position of the piston to be observed to decide how much liquid is left. For this purpose the first housing element may be provided with a scale. When the cartridge is empty, the device may be disposed of.

Although the device is described with the cartridge forming an integral part of the first housing element, an embodiment wherein a separate cartridge is received in the first housing element will be within the scope of the invention. The device may also be a durable one in which only the cartridge and possibly the valve and the spray nozzle are changed when the cartridge is empty, whereas the dose setting mechanism is reused as a durable part.

The device is preferably used for dosing insulin which may be assimilated through the nasal mucous membranes, but it may also be used for the administration of other kinds of medicine which should be added as a spray in preset doses, e.g. for curing eczema.

We claim:

1. A device for nasal administration of a number of measured doses of a liquid, medicine, especially insulin, comprising a first and a second housing element and means coupling said housing elements together to allow

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rotation but no axial displacement of the first housing element (1) with respect to the second housing element (2). said first housing element (1) comprising a cartridge containing liquid medicine and being sealed by a piston (21) at a first end coupled to the second housing element (2) and being at its other end closed by a valve (7,9) to communicate the liquid medicine in the cartridge with a spray nozzle (12) upon opening of said valve characterized in that the device further comprises a threaded piston rod (22) engaging the piston (21) of the cartridge irrotational with respect to the first housing element (1) and disposed in the second housing element (2) to move axially therein, a nut element (27) mounted irrotational but axially displaceably in the second housing element (2) and engaging the thread of the piston rod (22), a helical spring (32) abutting at one end an internal annular abutment on the second housing element (2) and at its other end a shoulder on the nut element (27) to press the nut element and thereby the piston rod (22) and the piston (21) in the direction towards an outlet end of the cartridge to set the liquid medicine therein under pressure, means for spraying out a dose of the liquid medicine under pressure upon opening said valve, the housing elements (1,2), the piston rod (22), and the nut element (27) cooperating so that relative rotation between the housing elements (1,2) in a selected direction causes relative rotation between the rod (22) and the nut element, making the nut element move axially in the second housing element (2) in a direction to compress the helical spring (32).

2. A device according to claim 1, characterized in that the piston rod (22) is snap locked into the piston (21).

3. A device according to claim 1, characterized in that the nozzle (12) sprays out the liquid at an angle of 0°-30°.

4. A device according to claim 1, characterized in that the nut element (27) defines at least one radially protruding, axially extending projection (29) on an exterior portion thereof; and the projection is received in an axially extending groove in an inner portion of the second housing element (2).

5. A device according to claim 1, characterized in that a stop (30,41) is provided limiting axial movement of the nut element (27) into the second housing element (2).

6. A device according to claim 1, characterized in that a stop (40) is provided limiting the movement of the nut element (27) along the piston rod (22).

7. A device according to claim 1, further characterized in a removable protective cap (34) configured to receive the first housing element (1) and having abutting edges that abut corresponding abutting edges on the second housing element (2); and means (36,37) for releasably coupling the protective cap (34) and the first housing element (1) for rotation together, so that rotation of the protective cap (34) with respect to the second housing element (2) causes rotation of the first housing element (1) with respect to the second housing element (2).

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8. A device according to claim 7, characterized in that the abutting edges of the second housing element (2) and the protective cap (34) comprise pointing means and scale means, respectively, for measuring the relative rotation of the protective cap (34) with respect to the second housing element (2).

9. A device according to claim 8, characterized in that means are provided for providing detents at selected rotational positions of the first housing element (1) with respect to the second housing element (2).

10. A device according to claim 9, characterized in that the coupling means (36,37) allow the protective cap (34) to receive the first housing element (1) in multiple different angular positions of the protective cap (34) with respect to the first housing element (1) to allow the protective cap (34) to be oriented at a selected position with respect to the second housing element (2), regardless of the detent rotational position of the first housing element (1) in the second housing element (2).

11. A device according to claim 10, characterized in that the interlocking means comprise a recess (38) on the abutting edges of the protective cap (34) and a projection (39) on the abutting edges of the second housing element (2), the projection (39) being shaped to fit into the recess (38) to define the selected position.

12. A device according to claim 9, characterized in that the abutting edges of the protective cap and the second housing element have interlocking means (38,39) for defining a selected angular position of the protective cap (34) with respect to the second housing element (2).

13. A device according to claim 1, characterized in that the piston rod (22) is made irrotational with respect to the first housing element (1) by fitting through an opening in an anti-rotation disc (23), the opening being mainly circular with at least one projection (26) protruding into the opening, by the piston rod (22) having a corresponding profile with recesses (25) corresponding to the projections (26), and by the anti-rotation disc (23) being at its periphery provided with alternating spaces and teeth (42) fitting into a castellated end of the first housing element (1).

14. A device according to claim 13, characterized in that the anti-rotation disc (23) serves as an abutment for the nut element (27) and limits movement of the nut element towards the cartridge.

15. A device according to claim 14, characterized in that the abutment between the nut element (27) and the anti-rotation disc (23) are formed as annular ramps (31) which when in mutual abutment allow only relative rotation of the first and second housing element in a device loading direction.

16. A device according to claim 15, characterized in that the nut element (27) has an tubular extension coaxially surrounding the piston rod (22) and terminated by a knob (33) at an outer end of the second housing element (2), the knob (33) being flush with the edge of the outer end of the second housing element when the annular ramps of the anti-rotation disc and the nut element are in mutual abutment.

* * * * *

PCT

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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 : A61M 11/06	AI	(11) International Publication Number: WO 92/11049 (43) International Publication Date: 9 July 1992 (09.07.92)
(21) International Application Number: PCT/DK91/00400 (22) International Filing Date: 19 December 1991 (19.12.91) (30) Priority data: 3028/90 21 December 1990 (21.12.90) DK (71) Applicant (for all designated States except US): NOVO NORDISK A/S [DK/DK]; Novo Allé, DK-2880 Bagsvaerd (DK). (72) Inventors; and (75) Inventors/Applicants (for US only): REX, Jørn [DK/DK]; Hyldeboften 6, Gundsømagle, DK-4000 Roskilde (DK). STEENGAARD, Kim [DK/DK]; Ketilstorp Allé 53, DK-2650 Hvidovre (DK). ELK, Svend [DK/DK]; Lyngborghave 48, DK-3460 Birkerød (DK).		(74) Common Representative: NOVO NORDISK A/S: Patent Department, Novo Allé, DK-2880 Bagsvaerd (DK). (81) Designated States: AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BJ (OAPI patent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH (European patent), CI (OAPI patent), CM (OAPI patent), CS, DE (European patent), DK (European patent), ES (European patent), FI, FR (European patent), GA (OAPI patent), GB (European patent), GN (OAPI patent), GR (European patent), HU, IT (European patent), JP, KP, KR, LK, LU (European patent), MC (European patent), MG, ML (OAPI patent), MR (OAPI patent), MW, NL (European patent), NO, PL, RO, SD, SE (European patent), SN (OAPI patent), SU*, TD (OAPI patent), TG (OAPI patent), US. Published With international search report.
(54) Title: A PEN SHAPED DEVICE FOR NASAL ADMINISTRATION OF DOSES OF A LIQUID MEDICINE		
(57) Abstract A pen shaped device for nasal administration of doses of a liquid medicine, comprising a first and a second housing element, the first housing element (1) comprising a cartridge for the medicine, this cartridge being at one end closed by a piston (21) and being at its other end closed by a valve (7, 9), which may be opened to connect the cartridge to a spray nozzle (12). When the two housing elements are rotated relatively to each other, a nut member (27) is proportional to the rotation moved along a threaded piston rod (22) to compress a helical spring (32) to act via the nut element (27) and the piston rod (22) on the piston (21) to put the content of the cartridge under pressure, which pressure may be released by opening the valve (7, 9) to lead the medicine in the cartridge to the nozzle (12).		

* See back of page

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PART B - ISSUE FEE TRANSMITTAL

MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE. Blocks 2 through 6 should be completed where appropriate. All further correspondence including the Issue Fee Receipt, the Patent, advances orders and notification of maintenance fees will be mailed to addressee entered in Block 1 unless you direct otherwise, by: (a) specifying a new correspondence address in Block below; or (b) providing the PTO with a separate "ADDRESS" for maintenance fee notifications with the payment of Issue Fee or thereafter. See reverse for Certificate of Mailing.

1. CORRESPONDENCE ADDRESS	2. INVENTOR(S) ADDRESS CHANGE (Complete only if there is a change)
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	Street Address
	City, State and ZIP Code
	CO-INVENTOR'S NAME
	Street Address
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<input type="checkbox"/> Check if additional changes are on reverse side	

SERIES CODE/SERIAL NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
First Named Applicant	04/01/94	012	0101, 0102, 0103, 0104, 0105, 0106, 0107, 0108, 0109, 0110, 0111, 0112, 0113, 0114, 0115, 0116, 0117, 0118, 0119, 0120, 0121, 0122, 0123, 0124, 0125, 0126, 0127, 0128, 0129, 0130, 0131, 0132, 0133, 0134, 0135, 0136, 0137, 0138, 0139, 0140, 0141, 0142, 0143, 0144, 0145, 0146, 0147, 0148, 0149, 0150, 0151, 0152, 0153, 0154, 0155, 0156, 0157, 0158, 0159, 0160, 0161, 0162, 0163, 0164, 0165, 0166, 0167, 0168, 0169, 0170, 0171, 0172, 0173, 0174, 0175, 0176, 0177, 0178, 0179, 0180, 0181, 0182, 0183, 0184, 0185, 0186, 0187, 0188, 0189, 0190, 0191, 0192, 0193, 0194, 0195, 0196, 0197, 0198, 0199, 0200, 0201, 0202, 0203, 0204, 0205, 0206, 0207, 0208, 0209, 0210, 0211, 0212, 0213, 0214, 0215, 0216, 0217, 0218, 0219, 0220, 0221, 0222, 0223, 0224, 0225, 0226, 0227, 0228, 0229, 0230, 0231, 0232, 0233, 0234, 0235, 0236, 0237, 0238, 0239, 0240, 0241, 0242, 0243, 0244, 0245, 0246, 0247, 0248, 0249, 0250, 0251, 0252, 0253, 0254, 0255, 0256, 0257, 0258, 0259, 0260, 0261, 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PATENT

Issue Batch Number: U90

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rex et al.

Serial No.: 08/054,913

Group Art Unit: 3307

Filed: April 27, 1993

Examiner: K. Asher

For: NOSE PEN

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Steve T. Zelson, Reg. No. 30,335
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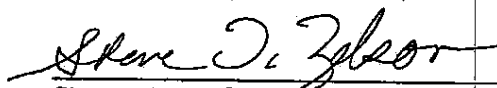
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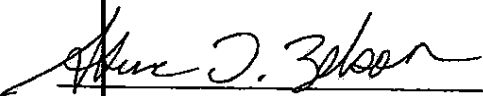
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EP 891025 A2 3388806
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FR 920522 B1 2629706
+JP 891116 T2 1503367
+US 910917 A 5049125
+WO 881201 A2 8809189
DES AU BR DK FI JP KR NO US

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REG AT BE CH DE FR GB IT LU NL SE
+WO 890209 A3 8809189
DES AU BR DK FI JP KR NO US
REG AT BE CH DE FR GB IT LU NL SE

+AU 881221 A1 17934/88 WO 880524 PA 88FR 8800258
 +EP 890517 A1 315461 W 880524 PW 88FR 8800258
 DES AT BE CH DE FR LI LU NL
 SE

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 +AT 920415 E 73679 EP 880524 PA 88 88401260
 31 MEMBERS 8 COUNTRIES

Your input please
 gb 9100532

Your question
 GB 9100532

Family members
 CC PUBDAT KD DOC.NO. CC PR.DAT AKP YY PR. NO.
 GB 910220 A0 9100532 GB 910110 PA 91 9100532
 GB 920715 A1 2251550
 2 MEMBERS 1 COUNTRIES

Your input please
 wo 9115303

Your question
 WO P 9115303

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 AU 911030 A1 76553/91 GB 900406 PA 90 9007813
 GB 900606 A0 9007813
 GB 910522 A0 9107138
 GB 911218 A1 2245030
 NO 921005 A0 923876
 WO 911017 A2 9115303
 DES AU BR CA FI GB JP KR NO US
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 LU NL SE
 WO 911128 A3 9115303
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 REG AT BE CH DE DK ES FR GB GR IT
 LU NL SE

+AU 911030 A1 76553/91 WO 910405 PA 91GB 9100532
 +NO 921005 A0 923876 WO 910405 PW 91GB 9100532
 9 MEMBERS 4 COUNTRIES

Your input please
 ep a 0338806

Your question
 EP P 338806

Family members
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 AU 891019 A1 33064/89 GB 880418 PA 88 8809115
 AU 920130 B2 619536
 BR 891128 A 8901828
 DK 890418 A0 1860/89
 DK 891019 A 1860/89
 EP 891025 A2 338806
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EP 891129 A3 338806
 DES BE CH DE ES FR GB GR IT LI LU
 NL

GB 880518 A0 8809115
 JP 900312 A2 2071758

US 920414 A 5104380

10 MEMBERS 7 COUNTRIES

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COUNTRIES

Your input please

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6,6471

CFU TIME

DATEX1

USER

please log in:

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(FILE 'USPAT' ENTERED AT 08:24:42 ON 06 NOV 92)

LI 125779 S 128/CLAS OR 684/CLAS OR 222/CLAS

L2 21083 S L1 AND LIQUID#

L3 3711 S L2 AND (SPRAY### OR AEROSOL?)

L4 891 S L3 AND PISTON#

L5 626 S L4 AND SPRING#

L6 5 S L5 AND PEN

L7 8 S L5 AND INSULIN — NO GOOD

=> d 16 f-5

1. 5,049,125, Sep. 17, 1991, Needleless injection apparatus of a liquid, notably for dental care; Claude Accaries, et al., 604/70, 68, 71 [IMAGE AVAILABLE]
2. 5,022,414, Jun. 11, 1991, Tissue separator method; George H. Muller, 128/898 ; 606/190 [IMAGE AVAILABLE]
3. 4,397,640, Aug. 9, 1983, Instrument for irrigation of a surgical site; Erich Haug, et al., 604/33 ; 433/95, 100; 604/35 ; D24/113
4. 4,241,850, Dec. 30, 1980, Personal protective device; Eugene M. Speer, et al., 222/39 ; 42/1.08, 1.09; 63/1.1; 222/78 , 82 , 162 , 325 , 336 ; 239/154 [IMAGE AVAILABLE]
5. 3,698,390, Oct. 17, 1972, DISPENSING FOR MEDICAMENTS; Frank Donald Ferris, 128/202.13 ; 604/59

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FILE 'USPAT' ENTERED AT 08:39:07 ON 06 NOV 92

=> s 5104380/pn

L8 1 5104380/PN

=> d 18

1. 5,104,380 , Apr. 14, 1992, Syringe with dose metering device; Rury
R. Holman, et al., 604/117, 157, 211, 224, 232 [IMAGE AVAILABLE]

=> s 5049125/pn

L9 1 5049125/PN

=> d

1. 5,049,125 , Sep. 17, 1991, Needleless injection apparatus of a
liquid, notably for dental care; Claude Accaries, et al., 604/70, 68, 71
[IMAGE AVAILABLE]

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124942 US POST OFFICE TO ADDRESSEE

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Initials of Receiving Clerk:	Weight: <u>1.00</u> lb. <u>00</u> oz.	C.O.D. <u>3</u>
ACCEPTANCE <input type="checkbox"/> International Country Code: _____		
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<input type="checkbox"/> By 12 Noon or <input type="checkbox"/> By 3:00 P.M.		
<input type="checkbox"/> Money 2nd Day or <input type="checkbox"/> Money 3rd Day		
Express Mail Corporate Account No.:	Federal Agency Account No.:	
FROM:		
NOVO MICRO INC. 408 LIVINGSTON AVE NEW YORK N.Y. 10174		
62ND FL 0022		

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<input checked="" type="checkbox"/> Signature of Addressee		
DELIVERY WAS ATTEMPTED	Date: <u>12/31/92</u>	Time: <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.
Signature of Delivery Employee		
Waiver of Signature and Indemnity (Domestic Only)		
<p>I, the undersigned, hereby authorize the signature of the addressee or the signature of the delivery employee, the latter being the addressee's agent, to sign and the employee to deliver and I understand that the signature of the delivery employee will constitute valid proof of delivery.</p> <p>SIGNED: _____</p>		
TO:	Telephone Number: _____	
BOX POST NON COMMISSIONER OF PATENTS AND TRADEMARKS WASHINGTON D.C. 20231		

07/793,412 01/13/92 128

3307

1-00 DKX 2-00 DKX 3-00
 JORN REX, ROSKILDE, DENMARK; KIM STEENGAARD, HVIDOVRE, DENMARK; SVEND
 ELK, BIRKEROD, DENMARK.DKX

CONTINUING DATA**
 VERIFIED

FOREIGN/PCT APPLICATIONS**
 VERIFIED DENMARK 3028/90 12/21/90

DKX 2 16 1 \$1,140.00 3573.204-US

STEVE T. ZELSON
 NOVO NORDISK OF NORTH AMERICA, INC.
 405 LEXINGTON AVE.,
 SUITE 6200
 NEW YORK, NY 10017

PEN SHAPED DEVICE FOR NASAL ADMINISTRATION OF DOSES OF A LIQUID
 MEDICINE

U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

United States Receiving Office
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United States Designated Office
United States Elected Office

Address: Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

SERIAL #:

02/793412

TO: Patent Examiner

FROM: Catherine Short, DO/EO Supervisor
International Division

SUBJECT: Priority Document

☒ The priority document was unavailable at the time the National Requirements were processed. The priority document 3028/9 will be forwarded to your office upon receipt in the International Office.

☐ Priority document _____ is attached. Please enter in the application serial number _____ and endorse appropriately.

Thank you for your assistance. If you have any questions related to this application please contact me on (703) 315-3915 Paullette Kudwell 693-0465.

PATENT APPLICATION FEE DETERMINATION FEE

793,412

CLAIMS AS FILED - PART I				SMALL ENTITY		OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE	FEE	RATE	FEE	
BASIC FEE				1460		920	
TOTAL CLAIMS	16		10		20		
INDEPENDENT CLAIMS	1		36		72		
MULTIPLE DEPENDENT CLAIM PRESENT			110		220	220	
			TOTAL		OR TOTAL	1140	

* If the difference in column 1 is less than 10, enter "0" in column 2.

CLAIMS AS AMENDED - PART II					SMALL ENTITY		OTHER THAN SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE	
Total		Minus						
Independent		Minus						
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM								
					TOTAL ADDIT. FEE		TOTAL ADDIT. FEE	

AMENDMENT B					SMALL ENTITY		OTHER THAN SMALL ENTITY	
CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE		
Total		Minus						
Independent		Minus						
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM								
					TOTAL ADDIT. FEE	TOTAL ADDIT. FEE		

AMENDMENT C					SMALL ENTITY		OTHER THAN SMALL ENTITY	
CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE		
Total		Minus						
Independent		Minus						
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM								
					TOTAL ADDIT. FEE	TOTAL ADDIT. FEE		

* If the entry in column 1 is less than the entry in column 2, enter "0" in column 3.
 ** If the "Highest Number Previously Paid For" in this space is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" in this space is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total & Independent) is the highest number found in the appropriate box in column 1.

FORM PTO-475
Rev. 12-93

For Fees Effective Nov. 5, 1990

Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

PATENT APPLICATION FEE DETERMINATION RECORD					Application or Docket Number <i>054913</i>	
Effective October 1, 1992						
CLAIMS AS FILED - PART I (Column 1)			(Column 2)		SMALL ENTITY	OR OTHER THAN SMALL ENTITY
FOR	NUMBER FILED		NUMBER EXTRA		RATE	FEE
BASIC FEE						\$355.00
TOTAL CLAIMS	<i>16</i>	minus 20 =	*	—	x\$11=	
INDEPENDENT CLAIMS	<i>1</i>	minus 3 =	*	—	x 37=	
MULTIPLE DEPENDENT CLAIM PRESENT					+115=	
					TOTAL	
					OR	TOTAL
						<i>940</i>
* If the difference in column 1 is less than zero, enter "0" in column 2						
CLAIMS AS AMENDED - PART II (Column 1)			(Column 2)		(Column 3)	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDI-TIONAL FEE
	Total	*	Minus	**	=	x\$11=
	Independent	*	Minus	***	=	x 37=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+ 115=	
					TOTAL	
					OR	TOTAL
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDI-TIONAL FEE
	Total	*	Minus	**	=	x\$11=
	Independent	*	Minus	***	=	x 37=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+ 115=	
					TOTAL	
					OR	TOTAL
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDI-TIONAL FEE
	Total	*	Minus	**	=	x\$11=
	Independent	*	Minus	***	=	x 37=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+115=	
					TOTAL	
					OR	TOTAL

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

FORM PTO-875
(Rev.10-92)

Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

SAN00941721

PATENT APPLICATION FEE DETERMINATION RECORD						Application or Docket Number 254913	
Effective October 1, 1992							
CLAIMS AS FILED (Column 1)		PART I (Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED		NUMBER EXTRA	RATE	FEE	RATE	FEE
BASIC FEE					\$355.00		\$710.00
TOTAL CLAIMS	16	minus 20 =	*	x\$11=		x\$22=	
INDEPENDENT CLAIMS	1	minus 3 =	*	x 37=		x 74=	
MULTIPLE DEPENDENT CLAIM PRESENT				+115=		+230=	230
				TOTAL		OR TOTAL	940
* If the difference in column 1 is less than zero, enter "0" in column 2							
CLAIMS AS AMENDED - PART II (Column 1)		(Column 2)		(Column 3)		SMALL ENTITY OR OTHER THAN SMALL ENTITY	
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE
	Total	*	Minus	**	=	x\$11=	
	Independent	*	Minus	***	=	x 37=	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+ 115=		
					TOTAL		OR TOTAL
(Column 1)		(Column 2)		(Column 3)		ADDIT. FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE
	Total	*	Minus	**	=	x\$11=	
	Independent	*	Minus	***	=	x 37=	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+ 115=		
					TOTAL		OR TOTAL
(Column 1)		(Column 2)		(Column 3)		ADDIT. FEE	
AMENDMENT C		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE
	Total	*	Minus	**	=	x\$11=	
	Independent	*	Minus	***	=	x 37=	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+115=		
					TOTAL		OR TOTAL
(Column 1)		(Column 2)		(Column 3)		ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

FORM PTO-875
(Rev.10-92)

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

SAN00941721

[illegible]

SAN00941722

[illegible]

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET (FOR USE WITH FORM PTO-875)							SERIAL NO.	FILING DATE					
							APPLICANT(S)						
							CLAIMS						
	AS FILED		AFTER 1st AMENDMENT		AFTER 2nd AMENDMENT			*		*		*	
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TOTAL IND.							TOTAL IND.						
TOTAL DEP.	16						TOTAL DEP.						
TOTAL CLAIMS	17						TOTAL CLAIMS						

PTO-1360 (3-78)

*MAY BE USED FOR ADDITIONAL CLAIMS OR AMENDMENTS

U.S. DEPARTMENT of COMMERCE
Patent and Trademark Office

SAN00941724

U.S. DEPARTMENT OF COMMERCE- PATENT & TRADEMARK OFFICE										1ST EXAMINER <i>J. Danchison</i>		DATE <i>6/17/93</i>	
PACE DATA ENTRY CODING SHEET										2ND EXAMINER		DATE	
APPLICATION NUMBER		TYPE APPL		FILING DATE		SPECIAL HANDLING		GROUP ART UNIT		CLASS		SHEETS OF DRAWING	
00/054913		2		042793		0		3307		128		--2	
TOTAL CLAIMS		INDEPENDENT CLAIMS		SMALL ENTITY?		FILING FEE		FOREIGN LICENSE		ATTORNEY DOCKET NUMBER			
16		1		0		940		N		3573-21445			
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CONTINUITY CODE		STATUS CODE		PARENT APPLICATION SERIAL NUMBER		PARENT PATENT NUMBER		PARENT FILING DATE		PARENT FILING DATE		PARENT FILING DATE	
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PCT/FOREIGN APPLICATION DATA													
FOREIGN PRIORITY CLAIMED		COUNTRY CODE		PCT/FOREIGN APPLICATION SERIAL NUMBER		PCT/FOREIGN APPLICATION SERIAL NUMBER		FOREIGN FILING DATE		FOREIGN FILING DATE		FOREIGN FILING DATE	
Y		XX X		007100400		007100400		127991		127991		127991	
		DK X		302890		302890		122190		122190		122190	

[illegible]

TITLE OF INVENTION																																							

ATTORNEY REGISTRATION NUMBERS																																							

CORRESPONDENCE NAME AND ADDRESS																																							

APPLICANT/INVENTOR DATA																																							
AUTHORITY CODE																																							
FAMILY NAME																																							
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NAME SUFFIX										STATE/CTRY CODE									
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NAME SUFFIX										STATE/CTRY CODE									
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MORE ☐

U.S. GOVERNMENT PRINTING OFFICE: 1993-347-700

PATENT NUMBER

ORIGINAL CLASSIFICATION

CLASS

SUBCLASS

128

200.22

APPLICATION SERIAL NUMBER

08/054,913

CROSS REFERENCE(S)

CLASS

SUBCLASS
(ONE SUBCLASS PER BLOCK)

128

207.18

200.14

604

232

211

APPLICANT'S NAME (PLEASE PRINT)

Rex et al

IF REISSUE, ORIGINAL PATENT NUMBER

INTERNATIONAL CLASSIFICATION

A	6	1	M
A	6	1	M
A	6	2	B
A	6	1	M

15/08

11/00

7/00

5/00

GROUP
ART UNIT

ASSISTANT EXAMINER (PLEASE STAMP OR PRINT FULL NAME)

KIMBERLY L. ASHER

PRIMARY EXAMINER (PLEASE STAMP OR PRINT FULL NAME)

Edgar S. Burr

PTO 270
(REV. 5-91)

ISSUE CLASSIFICATION SLIP

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

SAN00941727

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POSITION	INIT	DATE
CLASSIFIER	10	8-18-92
EXAMINER	295	8-20-92
TYPIST	249	1-21-93
VERIFIER	430	8-21-92
CORPS CORR.		
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Claim	Date
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SYMBOLS

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SEARCHED			
Class	Sub.	Date	Exmr.
128	200.14 200.22 200.19 200.18 203.12 203.19 203.21 203.22 203.23 207.18	11/5/92	Kasler
604	207-209 211, 218, 232, 135	11/6/92	Kasler

SEARCH NOTES		
See ADS, Impadoc inside	Date 11/6/92	Exmr. Kasler
Ex. Hutowski 604/207, 208, 209, 211, 218, 232, 135, Cross by 604/135, 211 if am part chd X on 604/232	11/6/92	Kasler

INTERFERENCE SEARCHED			
Class	Sub.	Date	Exmr.

07/793412

ABANDONED

327

APPROVED FOR LICENSE

AUG 1 992

INITIALS

CONTENTS

Entered
or
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or
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GROUP 3-5-92

DK 91/400

1. Application

papers & Pts.

RGT/EO/903

10/13

2. Primary Document

3. Foreign Statement w/ Priority

11-13

4. Ex Parte Quayle (2 mos.)

5. Interview Summary

6. Ltr. + Supl Decl.

7. Reg. Gt. Time (3 mos.)
5-1-93

AUG 1 1992

Aug 31 1992

Dec 1 1992

2-4-93

3-16-93

4-27-93

5-1-93

PALETTE KIDWELL
INTERNATIONAL COMPANY

SAN00941730

AB = OK, MA = OK
Dec = OK, PRO
Sig Dec = OK

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POSITION	ID NO.	DATE
CLASSIFIER		
EXAMINER	357 TW 408	6/17/93
TYPIST	258	8-24-93
VERIFIER		6-22
CORPS CORR.		
SPEC. HAND		
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INDEX OF CLAIMS

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SYMBOLS

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SEARCHED			
Class	Sub.	Date.	Exmr.
128	200.14 200.18 200.19 200.22 203.12 203.19 203.21 203.22 203.23 207.18	7/23/19	K. Shen
604	207.209, 211, 218 232, 135		

INTERFERENCE SEARCHED			
Class	Sub.	Date	Exmr.
128	200.14 200.22 207.18	2/4/94	KA516
604	211,232		

SEARCH NOTES		
	Date	Exmr.

(RIGHT OUTSIDE)

00/054913

Date
Entered
or
Counted

CONTENTS

APPROVED FOR LICENSE ☐

INITIALS _____

Date
Received
or
Mailed

	Application	papers.	
8.	Pre Ammt A		4-27-93
7-26 th 9.	Ex Parte Quayle (2 mos.)		JUL 27 1993
10.	Reg. Expt. Time (3 mos.)	12-27-93	12-29-93 [12-25-93]
2 nd 11.	Amt B		12-29-93
12.	Plt. of Informality (30 days)		- 3 FEB 1994
13.	Interview Summary		2-3-94
14.	Examiner's Ammt 1		8 FEB 1994
15.	PTO GRANT JUL 26 1994		

(FRONT)

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